

segments. The lower lateral margin of the third segment bisinuate; the dorsal surface evenly rounded to the furrow. The apical teeth rather obtuse, short, broadly triangular; the emargination between the middle ones triangular and narrower than the emargination between the middle ones and the lateral ones, which is semicircular. Apical furrow distinct, the pits somewhat confluent, about eight in number. Blue with some green reflections; the antennæ beyond the fourth joint and the tarsi brownish-black. The insect is almost nude. Wings slightly dusky, brownish; venation black.

Type locality: Rifle, Colo. Two specimens collected July 2, 1908 (S. A. Rohwer).

This species is closest to *montana* Aaron, but the apical teeth are short, obtusely triangular, and the anterior ocellus is not hooded.

Many thanks are due to Prof. T. D. A. Cockerell for going over my manuscript.

THE ENVIRONMENT OF *CALLICISTA INES*, EDWARDS (DYAR), IN SOUTHERN CALIFORNIA.

BY FORDYCE GRINNELL, JR., PASADENA, CAL.

THIS pretty and delicate little Hair-streak was first described by W. H. Edwards in *Papilio*, II, 25, 1882, from a large number of specimens taken in Southern Arizona in October, 1881, by Jacob Doll. W. G. Wright in his "Butterflies of the West Coast" records it from the Santa Rita mountains, Arizona and Southern California in October; but he does not specify in what part of Southern California he took it. Mr. W. S. Wright in the *Journal of the New York Entomological Society*, XVI, Sept., 1908, p. 162, gives an interesting but short account of the butterfly. It was taken by Mr. G. H. Field in July at Jacumba, San Diego County, where he found it rather common. This is the first definite record for the state. He supposes there are two broods, one in July and the other in October. Jacumba is in the desert part of the county.

On May 30, 1908, I took seventeen specimens of *Callicista ines* near Black Mountain on the desert slope of the Santa Rosa mountains, flying around the small, scrubby Western Juniper (*Juniperus occidentalis*, Hooker).

The Santa Rosa mountains are really a continuation of the San Jacinto moun-

tains on the southeast, separated from the latter by the long, deep Palm cañon which extends from Santa Rosa Mountain to the desert. These mountains lie in Riverside county bordering the Conchilla desert on the west; the Colorado desert proper being below and the San Gorgonio pass above the Conchilla desert. The highest point of the range is Toro peak (8705 ft.), connected with Santa Rosa Mt. (8000 ft.) by a ridge; from this elevated portion these mountains slope more or less abruptly to the desert, only about ten miles distant, and 100 feet below sea-level. In this comparatively short distance the life conditions change from the Canadian zone marked by the Limber-pine (*Pinus murrayana*) through several intermediate conditions to the Lower Sonoran zone with its peculiar and highly adapted flora and fauna.

The party, consisting of three persons, was camped at Das Palmos Spring (3500 ft. alt.), about two miles from Black Mountain. This locality was strictly Lower Sonoran with such characteristic desert plants as: Ocotillo (*Fouquieria spinosa*), Creosote-bush (*Corillea mexicana*), *Agave deserti*, *Yucca baccata*, desert willow (*Chilopsis salina*), two or three species of Mesquite, *Pinus monophylla*, *Eriogonum fasciculatum*, several species of cacti, a scrubby and peculiar looking form of *Quercus dumosa*, and the Western Juniper (*Juniperus occidentalis*). This is the habitat and surroundings of *Callicista ines* in the Santa Rosa mountains. It was hot in the mornings of this our first visit, but towards noon a very strong and disagreeable wind blew, which interfered with work, continuing during the afternoon and well into the night. On our second visit in the middle of June the conditions were more quiet, the weather hot, and things, generally, dryer. *C. ines* was not rare, but it was not conspicuous; its swift flight to some outer, topmost branch takes careful watching on the part of the collector. On May 30, I took seventeen specimens. On the 31st I visited every Juniper of the day before, beat all around them and kept a careful look-out, but did not see one. June 1st went over the same route and took three specimens. On June 13, while on another trip, in the upper part of Palm cañon (3000 ft.) I saw a few more specimens around the Junipers, with practically the same surroundings. On June 14 we moved camp, with the pack burros, down to the celebrated palm grove (*Washingtonia filifera*), and on the way saw a number more of the butterflies around the Junipers, four or five miles from the grove. On June 18 we were back again at our Dos Palmos spring camp, and on the following day saw a few more *ines* near Black Mountain; this was my last experience with this butterfly.

The recorded seasonal range of *C. ines* is from the last of May to October in California. It would be difficult to say how many broods there are until more collecting and observing is done. But it seems as though it were on the wing continually between the two extremes of capture; the broods overlapping, as it seems to me, in the same way as with *Phryganidia californica*.

Mr. Victor L. Clémence of Pasadena found *ines* common in Southern Arizona during 1908, from the middle of May till the first of August, where their habits are quite different from the species in California. On the desert they fly around the Mesquite bushes, and from here they ascend to about 6000 feet altitude in the Chiricahua mountains, where they fly around a yellow flower, the name not ascertained, but probably a composite. Juniper is found here, but *ines* was not observed to frequent it. Mr. Clémence saw this butterfly continually while he was in Arizona, and it was undoubtedly breeding continuously, one brood overlapping the other; there being no really distinct brood. Nothing is yet known on the early stages of *Callicista ines*, and there is much to be learned concerning its biotic relations.

THE DECTICINEAN GENUS REHNIA CAUD. (ORTHOPTERA)

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THE genus *Rehnia* was established upon two species, *victoriae* and *spinosa*, the first being designated as the type. Each species was known from the male only and was represented by the unique type, *victoriae* coming from Mexico and *spinosa* from the United States.

Recently while studying the Orthoptera in the Museum of Comparative Zoology at Cambridge, Mass., I had the very good fortune to find female specimens of both the above species. Of *R. victoriae* I saw two females, one labelled "1221", indicating Monclova, Mexico, and one "Palmer's assorting No. 1090," meaning Eagle Pass, Texas. These localities, as well as the ones mentioned below under *R. spinosa*, are given on the authority of Mr. Henshaw, who took them from original note books.

Of *Rehnia spinosa* I saw one male and two females, Palmer's assorting No. 1012, Eagle Pass, Texas, all in fragments, and one perfect female labelled "Mexico, L. W. Sweet." Thus both species of this genus are seen to be represented in both Mexico and the United States.

In both the above species of *Rehnia* the ovipositor is long and curved gently downwards, as in *Apote*, apically unarmed, and margined with piceous at the tip. The abdomens of the females of both species bear a stout backwardly curved spine beneath towards the tip, probably on the seventh ventral plate. This spur is especially large and noticeable in *spinosa*. In general appearance and structure the sexes